REMARKS

STATUS OF THE CLAIMS

Claims 1-7, 9-13, 15-25, and 27-40 remain in the case. Claims 1-7, 9-13, 15-25, and 27-40 stand rejected. Claims 9 and 15 have been amended to comply with a requirement of form expressly set forth in the previous Office action, depending on a canceled claim, and further to present the claims in better form for consideration on appeal. Such an amendment should be allowed after a final rejection according to MPEP §1116 (b). No new claims have been added. No new matter has been added. Claims 8, 14, and 26 have been canceled.

STATUS OF THE SPECIFICATION

The specification stands objected to based on the use of natural language as inputs, outputs or variables because natural language depends on the user's knowledge or use of the language to interpret the results. Applicants respectfully traverse this objection based on the following remarks.

The specification details the term natural language as used in Claims 1, 18, 30, and 36 in paragraphs 102-118 of the published Application (US 2005/0044451 A1). The Office Action's objection cites the example found in paragraph 112 of the Application. In the example, the number of blocks processed by a data storage system without an error is 1,040 blocks. Based on the graph in Figure 6A, a line representing 1,040 blocks on the X axis intersects the "good" line at 0.0, the "marginal" line at 0.178, and the "bad" line at 0.78. The Office Action poses the question "what is worst, 'not good' or 'not very marginal' if the values to these variables are not known?" (par. 5). In the example, 'not good' and 'not very marginal' both correspond to the same well defined point on the graph, so neither is worst, both are equal, and both are precisely and exactly known.

The natural language "inputs, outputs or variables" as they are referred to in the Office Action, or fuzzy variables or fuzzy sets as they are referred to in the specification, are carefully and precisely defined and tuned by the user or by an expert in the field using lines or functions. (See par. 113-114). The lines may be defined using sets of tuples, slopes, equations, or

otherwise, but the values and ranges of the fuzzy variables are precisely known. Fuzzy logic is a system that makes consistent determinations regarding precise data based on subjective user criteria. Because the user's criteria or the variable names chosen may be subjective (good, marginal, and bad in the example) does not mean that the values and ranges of the criteria are not known. If the values and ranges of the "inputs, outputs or variables" were not known, fuzzy logic could not be used to make a determination. Paragraph 119 describes how crisp input values are "fuzzified" into their degrees of membership in each of the fuzzy sets so that fuzzy logic rules can be evaluated based on the input values. Because "a failure prediction algorithm comprising fuzzy logic rules" is "stored in a natural language format," as stated in Claims 1, 18, 30, and 36, does not mean that the fuzzy logic rules are unknown or based on "the users knowledge or use of the language" as the Office Action suggests in par. 5. Conversely, to make a valid determination according to the fuzzy logic rules, each of the "inputs, outputs or variables" should be precisely defined, as detailed in the specification. Applicants respectfully traverse the objection to the specification, and submit that the specification is allowable based on the above remarks.

RESPONSE TO CLAIM REJECTIONS UNDER 35 U.S.C. § 101

Claims 1-40 stand rejected under 35 U.S.C. §101 for nonstatutory subject matter. The Office Action's position is that independent claims 1, 7, 13, 18, 25, 30, and 36 each fail to "set forth a practical application of that §101 judicial exception to produce a real-world result." Applicants respectfully disagree and traverse the rejection of Claims 1-40 under 35 U.S.C. § 101.

The U.S. Supreme Court has declared that Congress chose expansive language in 35 U.S.C. § 101 to include "anything under the sun that is made by man." *Diamond v. Chakrabarty*, 447 U.S. 303, 308-09, 206 USPQ 193, 197 (1980); M.P.E.P § 2106.IV.A, 8th ed, rev. 5 (Aug. 2006). This perspective has also been embraced by the Federal Circuit. M.P.E.P. § 2106.IV.A. The Federal courts have held that 35 U.S.C. § 101 does have certain limits. *Id.* The courts have found that the statutory categories of inventions, machine manufacture, composition of matter, and process, have only limited exceptions: abstract ideas, laws of nature, and natural phenomena. *Id.* Claims 1-40 clearly are not abstract ideas, laws of nature, or natural phenomena and do not fit within one of these judicially recognized exceptions. The Office Action provides no support for a claim that Claims 1-40 are non-statutory, and thus has not met the U.S. Patent Office's burden of establishing a *prima facie* case. *See in re Oetiker*, 997 F.2d 1443, 1445, 24 USPQ2d 1442, 1444 (Fed. Cir. 1992) ("The examiner bears the initial burden . . . of presenting a *prima facie* case of unpatentability."); M.P.E.P. § 2106.IV.D.

To determine if an invention is statutory, the M.P.E.P. in section 2106 has provided a guide for examiners in determining if the claimed invention falls within the judicial exceptions to § 101. M.P.E.P. § 2106.IV.C. et seq. Claims 1-40 in the Application are clearly not natural phenomena or are laws of nature. While there is some math involved in the fuzzy logic rules of Claims 1-40, the claims do not recite any mathematical equations and do not fall under the abstract idea exception, so a rejection based on §101 is improper.

Even if the present invention was found to include a judicial exception, the inquiry does not end with that finding. M.P.E.P. § 2106.IV.C.1. USPTO personnel must then ascertain the scope of the claim to determine whether it covers either a judicial exception to § 101 or a practical application of a judicial exception. *Id.* A practical application of a judicial exception

may well be deserving of patent protection. *Id.*; *see Diamond v. Diehr*, 450 U.S. 175, 209 U.S.P.Q. 1 (1981) at 187. The test laid out for determining if the claimed invention is a practical application of an abstract idea is laid out in section 2106 of the MPEP as a two prong test. M.P.E.P. § 2106.IV.C.2. "A claimed invention is directed to a practical application of a 35 U.S.C. 101 judicial exception when it: (A) "transforms" an article or physical object to a different state or thing; or (B) otherwise produces a useful, concrete and tangible result, ..." *Id.*

While the Applicants maintain that Claims 1-40 clearly do not fall under any of the judicial exceptions and do not include an abstract idea, even if the Claims did include an abstract idea in the form of a mathematical exception, the Applicants assert that Claims 1-40 are a practical application and are statutory. Under the second prong of the practical application test, the Claims must produce a useful, concrete, and tangible result. *Id.* The standard for a useful, a tangible, and a concrete result are set forth in § 2016.IV.C.2.(2).

For an invention to be useful, the invention must meet the utility requirement of 35 U.S.C. § 101 and must be (i) specific, (ii) substantial, and (iii) credible. *Id.* The Office Action has not provided *prima facie* case or any evidence at all that Claims 1-40 do not meet the utility requirement of § 101. *Id.* As set forth in Claims 1-40, the claimed invention creates machine-readable code from a natural language failure prediction algorithm, generates and tests the machine-readable code to produce a result, revises the failure prediction algorithm, and in certain claims, predicts system component failure. This results in a specific, substantial, and credible failure prediction algorithm or a failure prediction, in increased component failure forecasting precision, and in shortened development cycles for failure prediction algorithms that can be made by non-programmers. The Applicants respectfully assert that the Office Action has not met its burden of showing that the Claims do not meet the utility requirement of 35 U.S.C. § 101 and that the claimed invention is specific, substantial, and credible.

"The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing." M.P.E.P. § 2106.IV.C.2.(2).b). The Applicants respectfully assert that the Office Action has not put forth a *prima facie* case that Claims 1-40 do not provide a tangible result. The claim need only produce a "real-world result." *Id.* Claims 1-40 provide a real world result. In

the prior art, component failure prediction required complicated software and routines written by experienced software engineers, were often inaccurate, and had long release cycles. The prediction algorithms were not customized to an individual user's storage devices or situations. Discrete thresholds caused many false-positives or missed failures. *See* pars. 11-14 of the specification.

In contrast, the invention of Claims 1-40 allows non-programmers to create custom failure prediction algorithms that use fuzzy logic instead of discrete thresholds. The prediction algorithms are therefore more accurate as well as being user specific. The invention of Claims 1-40 also tests the prediction algorithm and allows a user to modify it until an expected result is attained. The invention of Claims 1-40 forecasts failure of one or more components of a storage system. The Applicants respectfully assert that Claims 1-40 provide a tangible, real-world result.

The "concrete result" analysis section of § 2106.IV.C.2.(2) states that "this question arises when a result cannot be assured. In other words, the process must have a result that can be substantially repeatable or the process must substantially produce the same result again." M.P.E.P. § 2106.IV.C.2.(2).c). The Applicants respectfully assert that the Office Action has not put forth a *prima facie* case that Claims 1-40 do not provide a concrete result. When properly implemented, the invention of Claims 1-40 will result in certain claims in a machine-readable code failure prediction algorithm that the invention has generated from natural language fuzzy logic rules, or in other claims in a component failure prediction produced from such an algorithm. The Applicants respectfully assert that the invention of Claims 1-40 is not of the type where results vary and are not repeatable, and that the results of the invention are therefore concrete.

The Applicants respectfully assert that Claims 1-40 clearly meet the second prong of the practical application test set forth in MPEP § 2106.IV.C.2 and that Claims 1-40 are statutory matter under 35 U.S.C. § 101. In addition, the Applicants respectfully assert that Claims 1-40 meet the first prong of the practical application test, in that the Claims transform an article to a different state. Claims 1-40 transform a natural language algorithm to machine-readable code, and in certain embodiments, to a component failure prediction. The Applicants respectfully assert that Claims 1-40 are statutory in that the Claims do not fall within a judicial exception to

35 U.S.C. § 101 and, if found to contain an abstract idea, are a practical application of the abstract idea.

The Office Action dated December 14, 2006 states that "a portion of Claim 25 states 'selectively forecasting failure of one or more components' discloses enough information to state what the practical application of the invention is." (Office Action 12-14-06, pg. 3, par. 4). Accordingly, Applicants amended Claim 7 and Claim 13 to include the forecasting element of Claim 25 based on the Office Action's statement. Applicants agree with the Office Action of December 14th that forecasting failure of storage system components is a practical application, and further assert that generating and testing machine-readable code from a natural language failure prediction algorithm is also a practical application.

RESPONSE TO CLAIM REJECTIONS UNDER 35 U.S.C. §102(b)

Claims 1, 3, 13, 18, 21, 25, 30, 32, and 36 stand rejected under 35 U.S.C. §102(b) as being anticipated by Awadallah, ('Application of AI tools in fault diagnosis of electrical machines and drives - an overview,' hereinafter Awadallah). Applicant respectfully asserts that Awadallah does not teach or suggest all of the elements of Claims 1, 3, 13, 18, 21, 25, 30, 32, and 36 in view of the following remarks.

"Anticipation under 35 U.S.C. §102 requires the disclosure in an single piece of prior art of each and every limitation of a claimed invention. ...Whether such art is anticipating is a question of fact." *Apple Computer, Inc. v. Articulate Systems, Inc.* 234 F.3d 14, 20, 57 USPQ2d 1057, 1061 (Fed. Cir. 2000). Applicants submit that Awadallah does not disclose each and every limitation of Claims 1, 3, 13, 18, 21, 25, 30, 32, and 36. Applicants also respectfully suggest that perhaps the Office Action has mistaken the electrical machine drives of Awadallah with data storage drives.

While non-analogous art is improper for a rejection under 35 U.S.C. §103, non-analogous art may be used in a rejection under 35 U.S.C. §102, as long as it discloses each and every limitation of the claimed invention arranged as in the claims. The non-analogous nature of the art of Awadallah and the present invention is discussed below with regards to the 35 U.S.C. §103 rejections. In general, Awadallah teaches fault diagnosis of electrical machines and electrical

drives. Drives, in Awadallah, are mechanisms by which force or power are transferred in a machine, and are not storage devices. Awadallah was published in the *IEEE Transactions on Energy Conversion*, a publication of the IEEE Power Engineering Society, whose focus is on the generation, transmission, distribution, conversion, measurement, and control of electric energy. (Awadallah, headings). Awadallah "focuses on stator, rotor, eccentricity, and bearing damage faults in induction motors and drive systems." (Awadallah, pg. 245, col. 2, ln. 22-25). The drive systems of Awadallah are "inverter-fed induction motor drives" (Awadallah, pg. 246, col. 4, ln. 9-10) or other "electronic drive systems" (Awadallah, pg. 248, col. 7, ln. 22). These drive systems transfer power from the induction motors. The authors, Mohamed A. Awadallah and Medhat M. Morcos specialize in "electrical power and machines engineering," "power electronics," "power quality," "high-voltage engineering," and the like. (Awadallah, pg 251, col. 14, ln. 14-38). References 1-74 disclosed in Awadallah deal with induction motors, other electrical motors, and their drive systems. Like Awadallah, none of the 74 references deals with storage systems. Nowhere does Awadallah teach failure prediction of storage systems, or even mention storage systems.

Independent Claim 1 is "an apparatus for developing failure prediction software for a **storage system**." (Claim 1, emphasis added). Dependent Claim 3 depends from Claim 1, and discloses a similar apparatus. Independent Claim 13 discloses "a system for predicting component failure within a **storage system**," as well as disclosing "a **storage media**," and "a drive mechanism to read data from the storage media and write data to the storage media." (Claim 13, emphasis added). Independent Claim 18 discloses "a method for developing failure prediction software for a **storage system**." (Claim 18, emphasis added). Dependent Claim 21 depends from Claim 18, and discloses a similar method. Claims 25, 30, 32, and 36 include similar limitations, each including a **storage system**. Applicants respectfully submit that Awadallah does not teach a storage system, a storage media, or failure prediction of a storage system.

Applicants also respectfully disagree that Awadallah teaches the other limitations of the Claims at issue. For example, Claim 1 states:

1. An apparatus for developing failure prediction software for a storage system, comprising:

an editor to assist a user in generating a failure prediction algorithm comprising fuzzy logic rules, the failure prediction algorithm stored in a natural language format;

a code generator to generate machine-readable code from the stored failure prediction algorithm in response to user input;

a test module to test the machine-readable code with sample data to produce a result in response to user input; and

a revision module to allow revisions of the failure prediction algorithm in response to user input such that the result corresponds to an expected result.

The Office Action suggests that the abstract of Awadallah teaches the editor of Claim 1. Applicants fail to find any teachings of an editor, a user, generation of a failure prediction algorithm, or a natural language format in the abstract of Awadallah as cited in the Office Action. Additionally, the abstract of Awadallah teaches the "reduction of the human experts involvement in the diagnosis process," teaching away from the involvement of a human user in induction motor failure prediction, instead teaching the substitution of "human experts" with "modern artificial intelligence (AI) tools," as the title of the article suggests. (Awadallah, abstract). The Office Action also cites "C17:30-46." (Office Action, pg. 5, par. 4). Applicants respectfully submit that Awadallah does not have 17 columns, and request further clarification.

The Office Action further suggests that Awadallah teaches the code generator of Claim 1, stating that "'generate machine readable code' of applicant is produced by the 'computer simulations' of Awadallah." (Office Action, pg. 6, par. 1). Applicants Claim 1 states "a code generator to generate machine-readable code from the stored failure prediction algorithm in response to user input," while the passage in Awadallah cited by the Office Action states "these

[performance characteristics] were obtained either through computer simulations or more applicably through experimental testing of faulty machines." (Awadallah, C2:2-4). Obtaining performance characteristics of induction motors through computer simulations is obviously not the equivalent of generating machine-readable code from a failure prediction algorithm comprising fuzzy logic rules that is stored in a natural language format. The computer simulations of Awadallah simulate faulty induction motors to obtain performance characteristics and study their attributes. The computer simulations of Awadallah do not generate machine readable code from natural language algorithms, but generate performance data of faulty motors.

The Office Action further suggests that Awadallah teaches the test module of Claim 1. The Office Action equates "training" of artificial neural networks in Awadallah to the "test module to test the machine-readable code with sample data to produce a result in response to user input" of Claim 1. (Office Action, pg. 6, par. 1). Applicants respectfully submit that the training of artificial neural networks taught in Awadallah does not teach the testing of machine-readable code with sample data. The "training" of Awadallah is a brief reference in a bulleted list of "tasks" that artificial neural networks can perform. Awadallah does not teach machine-readable code that is generated from a failure prediction algorithm comprising fuzzy logic rules in connection with the artificial neural networks or otherwise.

The Office Action also suggests that Awadallah teaches "a revision module configured to allow revisions of the failure prediction algorithm in response to user input such that the result corresponds to an expected result" of Claim 1. In the reference cited by the Office Action, Awadallah teaches that "adaptive fuzzy systems utilize the learning capabilities of ANNs or the optimization strength of genetic algorithms to adjust the system parameter set in order to enhance the intelligent system's performance based on a priori knowledge." (Awadallah, pg. 249 C1:29-48). Applicants respectfully submit that Awadallah does not teach adjusting a failure prediction algorithm or anything else in response to user input, as detailed in Claim 1, but teaches adjusting a system parameter set in response to artificial neural networks and genetic algorithms, both of which are unrelated to the present invention. Applicants further submit that adjusting a system parameter set is not equivalent to revising a natural language failure prediction algorithm comprising fuzzy logic rules. An algorithm is an organized procedure or method with steps,

rules, or the like, while a system parameter is a system variable, constant, quantity, or attribute. Applicants submit that a system parameter is not a step or a rule, but merely a value.

Applicants submit that Awadallah does not teach a storage system, an editor, a code generator, a test module, or a revision module as arranged in Claim 1, or similar limitations in Claims 3, 13, 18, 21, 25, 30, 32, and 36. Applicants respectfully request that the rejection of Claims 1, 3, 13, 18, 21, 25, 30, 32, and 36 under 35 U.S.C. §102(b) as being anticipated by Awadallah be removed.

RESPONSE TO CLAIM REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 2, 6, 19, 20, 24, 31, 35, 37, and 38 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Awadallah in view of U.S. Patent No. 6,446,081 to Preston (hereinafter Preston). Claims 5, 23, 29, and 34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Awadallah in view of U.S. Patent No. 4,907,230 to Heller et al. (hereinafter Heller). Claim 39 stands rejected under 35 §103(a) as being unpatentable over Awadallah and Preston in view of Heller. Claims 4, 22, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awadallah in view of U.S. Patent No. 6,314,377 to Ottesen (hereinafter Ottesen). Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Awadallah in view of U.S. Patent No. 6,219,805 to Jones et al. (hereinafter Jones). Claims 27 and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Awadallah in view of U.S. Patent No. 6,553,369 to Guay et al. (hereinafter Guay). Claim 40 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Awadallah, Preston, and Heller in view of U.S. Patent No. 6,397,202 to Higgens et al. (hereinafter Higgens).

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." MPEP §2143.03. Even if all the claim limitations are taught or suggested, there must be some suggestion or motivation to combine reference teachings. See MPEP § 2142. This suggestion or motivation to combine references must be established by factual findings. "The factual inquiry whether to combine references must be thorough and searching. (quoting McGinley v. Franklin Sports, Inc. 262 F.3d 1339, 1351-52, 60

USPQ2d 1001, 1008 (Fed. Cir. 2001)). It must be based on objective evidence of record." In re Lee, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).

Awadallah

Applicant submits that because each of the Examiner's §103(a) rejections is based on Awadallah, which does not include a storage system, an editor, a code generator, a test module, or a revision module as described above, and because independent Claims 1, 7, 13, 18, 25, 30, and 36 each include these limitations or similar limitations, that Claims 2, 4-7, 19-20, 22-24, 27-29, 31, 33-35, and 37-40 are allowable under §103(a).

Further, Applicants respectfully submit that Awaddalah is non-analogous art and thus is not a valid reference to cite for a §103 rejection. Determining that a cited reference is non-analogous requires a two-step process. *In re Deminski*, 796 F.2d 436, 441-2 (Fed. Cir. 1986); MPEP § 2141.01(a).I. The first step is to determine if the reference is within the inventor's field of endeavor. *Id.* If so, then the reference is analogous. *Id.* If the reference is not within the inventor's field of endeavor, the second step is to determine if the reference is reasonably pertinent to the particular problem with which the inventor was involved. *Id.*

The first question, whether the reference is in the inventor's field of endeavor is narrow in scope. It is not sufficient that the reference and the claimed invention are both in the computer science art as demonstrated by Wang Laboratories, Inc. v. Toshiba Corp., 993 F.2d 858 (Fed. Cir. 1993). The Wang decision is cited in detail at MPEP 2141.01(a) – ANALOGY IN THE ELECTRICAL ARTS:

"Patent claims were directed to single in-line memory modules (SIMMs) for installation on a printed circuit motherboard for use in personal computers. Reference to a SIMM for an industrial controller was not necessarily in the same field of endeavor as the claimed subject matter merely because it related to memories. Reference was found to be in a different field of endeavor because it involved memory circuits in which modules of varying sizes may be added or replaced, whereas the claimed invention involved compact modular memories. Furthermore, since memory modules of the claims at issue were intended for personal computers and used dynamic random-access-memories, whereas reference SIMM was developed for use in large

industrial machine controllers and only taught the use of static random- access-memories or read-only-memories, the finding that the reference was nonanalogous was supported by substantial evidence." MPEP 2141.01(a)

Thus, a reference to a memory module was found not to be in the field of endeavor for an invention relating to SIMMs for installation on a printed circuit motherboard. The fact that the claimed invention was for personal computers rather than industrial computers and for random access memory rather than static memory were sufficient distinctions to remove the claimed invention from the same field of endeavor as the cited reference.

With respect to the present invention, the claims recite an apparatus, system, and method for developing failure prediction software for a storage system, and for predicting component failure within a storage system. This field of endeavor is distinct from Awadallah which relates to induction and other electric motors, as described above. The mere fact that Awadallah and the claimed invention both include fuzzy logic fault diagnosis is not sufficient to establish the same field of endeavor. This is supported by the MPEP's citation to Wang which teaches that two references that both relate to computer memory are not necessarily analogous simply because both references use the term "memory." MPEP 2141.02(a).

The second part of the two-part test for analogous art requires that the cited reference be reasonably pertinent to the particular problem with which the inventor was involved. "A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." In re Clay, 966 F.2d 656, 659 (Fed. Cir. 1992). To answer this question, the purpose of the reference and the claimed invention are compared.

Awadallah relates to the diagnosis of faults in electric motors. Awadallah explicitly states that the problem faced and addressed by Awadallah. Awadallah states "of all possible fault types, this paper focuses on stator, rotor, eccentricity, and bearing damage faults in induction motors and drive systems." (Awadallah, pg 245, col. 2, ln. 22-24). In contrast, the claimed invention of the Application, and in its specification, "relates to maintenance and storage of data within a storage system." (Application, par. 2).

The problems are completely different. An induction motor eccentricity fault or the like does not commend itself to the mind of an inventor trying to develop failure prediction of the permanent data errors in the storage systems of the present invention. Under Wang, the fact that the two references examined both dealt with computer memory was not sufficient to find that the references were analogous art. Thus, Awadallah is not analogous art and is an improper 35 U.S.C. §103(a) reference.

Awadallah does not teach a storage system, an editor, a code generator, a test module, or a revision module. In addition, it would not be obvious to one skilled in the art to use Awadallah in such a distinct and separate manner and in a distinct environment. Finally, Awadallah is not analogous art and is therefore an improper §103(a) reference. Because the prior art does not teach all of the claim limitations, and given the normal skill in the art, Applicants respectfully submit that the Examiner has not established a prima facie case of obviousness.

Other References

Applicants respectfully traverse the rejections based on Preston, Heller, Ottesen, Jones, Guay, and Higgens for the reasons expressed in the Office Action Response dated April 16, 2007, which is incorporated herein by reference.

Appellants respectfully assert that if the prior art of record so clearly demonstrates the obviousness of the claimed invention, a single reference would teach more than just one or two elements of the claimed invention. However, the formation of the combinations used in the rejections is indicative of impermissible hindsight analysis by the Examiner. The sheer number of references used seems to indicate that the claim terms were used in a key word search of the prior art. For certain claims up to four different references are relied upon. Once a key word hit was found, there appears to be little analysis performed to determine the applicability of relevance of the reference. Awadallah, for example, includes the term "drive" that is often associated with data storage systems, but "drive" in Awadallah refers to the power transfer system of electric motors, which are completely unrelated to data errors in storage systems. The four references cited regarding the relatively brief Claim 40, broken up in groups of a few words

each, is also indicative of hindsight keyword analysis in support of a §103 obviousness rejection. Appellants respectfully assert that because such analysis is improper the rejections should be overturned.

Given that Awadallah, Preston, Heller, Ottesen, Jones, Guay, and Higgins fail to teach or suggest all of the elements recited in independent Claims 1, 7, 13, 18, 25, 30, and 36 of the present Application, Applicants respectfully submit that independent Claims 1, 7, 13, 18, 25, 30, and 36 are patentable over Awadallah, Preston, Heller, Ottesen, Jones, Guay, and Higgins. Given that dependent Claims 2-6 depend from Claim 1, that dependent Claims 9-12 depend from Claim 7, that dependent Claims 15-17 depend from Claim 13, that dependent Claims 19-24 depend from Claim 18, that dependent Claims 27-29 depend from Claim 25, that dependent Claims 31-35 depend from Claim 30, and that dependent Claims 37-40 depend from Claim 36, Applicants respectfully submit that Claims 2-6, 9-12, 15-17, 19-24, 27-29, 31-35 and 37-40 are also patentable over Awadallah, Preston, Heller, Ottesen, Jones, Guay, and Higgins. Applicants request that the rejection of Claims 1, 3, 13, 18, 21, 25, 30, 32, and 36 under 35 U.S.C. §102(b) as being anticipated by Awadallah be withdrawn, and that the rejection of Claims 2, 6, 19, 20, 24, 31, 35, 37, and 38 under 35 U.S.C. §103(a) as being unpatentable over Awadallah in view of Preston, Heller, Ottesen, Jones, Guay, and Higgins also be withdrawn.

CONCLUSION

As a result of the presented amendments and remarks, Applicant asserts that Claims 1-7, 9-13, 15-25, and 27-40 are patentable and in condition for prompt allowance. Should additional information be required regarding the amendments or traversal of the rejections of the independent and dependent claims enumerated above, the Examiner is respectfully asked to notify Applicants of such need. If any impediments to the prompt allowance of the claims can be resolved by a telephone conversation, the Examiner is respectfully requested to contact the undersigned.

Respectfully submitted,

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